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ARCHIVES OF THE NATIONAL MUSEUM OF BRAZIL.[1] — The first number of this new journal, established by the national museum recently founded at Rio Janeiro, contains several memoirs, among them one on the aboriginal remains in the shell-heaps of Southern Brazil, locally called "sambaquis," by Professor Wiener, and illustrated by two plates. Professor Hartt, in charge of the Geological Survey of Brazil, and director of the department of physical science and geology in the national museum, contributes an illustrated article of much interest on Brazilian pottery.

MANTON'S TAXIDERMY.[2] — Though fifty cents is a large price for this little book, and the illustrations consist of three rude diagrams, it is yet sufficiently explicit to enable one to learn how to stuff a bird or mammal if he is unable to take a few lessons from a teacher.

RECENT BOOKS AND PAMPHLETS. — The Preparation and Mounting of Microscopic Objects. By Thomas Davis. Second edition, greatly enlarged. Edited by John Matthews. New York: G. P. Putnam's Sons. 1876. 12mo, pp. 214. $1.25

Bulletin of the United States Geological and Geographical Survey of the Territories. Vol. ii., No. 4. Washington, D. C. August 4, 1876. 8vo.

Force of Ciliary Motion. By H. P. Bowditch, M. D. (Reprinted from the Boston Medical and Surgical Journal.) Cambridge. 1876. 8vo, pp. 5.

Check-List of the Noctuidæ of America, North of Mexico. II. By A. R. Grote. Buffalo. 1876. 8vo, pp. 20. 75 cents.

Synopsis Cecidomyidarum. Von J. E. von Bergenstamm und P. Löw. Wien. 1876. 8vo, pp. 104.

Beiträge zur Anatomie und Histologie der Pflanzenlaüse, insbesondere der Cocciden. Von E. L. Mark. Bonn. 1876. 8vo, pp. 59.

On the Growth of the Flower-Stalk of the Hyacinth. By A. W. Bennett. Preliminary Note on the Rate of Growth of the Female Flower-Stalk of *Vallisneria spiralis*. (Extracted from the Transactions of the Linnæan Society of London.) 1876.

Micro-Photographs in Histology, Normal and Pathological. 4to. By C. Seiler, M. D., in conjunction with J. Gibbons Hunt, M. D., and J. G. Richardson, M. D. Philadelphia: J. H. Coates & Co.

An Address on Some of the Leading Public Health Questions, etc. By J. M. Toner, M. D. Cambridge, Mass. 8vo, pp. 40.

Ueber die Befruchtung der Nordamerikanischen Yucca-Arten. Von J. Boll. 8vo, pp. 4.

GENERAL NOTES.

BOTANY.[3]

INFLUENCE OF LIGHT AND HEAT ON TRANSPIRATION IN PLANTS — Professor Wiesner has recently examined this interesting subject and has added a few facts to those already known. He shows that both light and radiant heat favor transpiration, or active evaporation from the surface of plants, but he thinks that the ultra-violet rays have little effect. The well-known fact that green plants transpire more rapidly in the light is explained on the ground of their absorbing the light by means of their chlorophyll, and thereby increasing the tension of the aqueous vapor in the cavities of the plant, and thus favoring its escape. This was studied experimentally by comparison of transpiration of green and of etiolated plants in the light, by researches in the spectrum itself, and by interposing a chlorophyll-solution. The opening of stomata in the light plays only a subordinate part in the increase of transpiration caused by light.

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[1] *Archivos do Museu Nacional do Rio de Janeiro.* Vol. i., No. 1. 1876. 4to, pp. 30. 5 plates.

[2] *Taxidermy without a Teacher.* By WALTER P. MANTON. Illustrated. South Framingham, Mass. 1876. 12mo, pp. 41. 50 cents.

[3] Conducted by PROF. G. L. GOODALE.

INFLUENCE OF TEMPERATURE ON THE GERMINATION OF PINE SEEDS. — Dr. W. Velten states that heating the seeds can exercise upon their germination an effect which is favorable or unfavorable according to their physiological condition; and, further, that the time during which they are heated is an important element, since he finds that a lower temperature for a long time has the same influence as a higher temperature for a proportionally short period.

BOTANY OF CALIFORNIA, VOL. I. — This work gives a systematic account of the Polypetalous and Gamopetalous Exogens of California, of the whole eastern slope of the Sierra Nevada and of the ranges adjacent to it on the east, from Arizona to Northern Nevada, and of Southern Oregon. The Polypetalous orders have been elaborated mainly by Professor Brewer and Mr. Sereno Watson; the Gamopetalæ by Professor Gray. Of the high character of a systematic treatise by the authors just mentioned it is quite unnecessary to speak, but we may be permitted to call attention to a few of the special merits of the present volume. There are two keys, one *analytical*, the other *synoptical*, by which the determination of the order of a plant and its place in the system is rendered very easy. In these days when there can be noted a tendency in some quarters to go back to a false indexical method, which secures by hook or by crook merely the name of a plant, somewhat after the fashion of a pick-lock, it is pleasant to observe so effective a protest in the form of a sound, scientific, and yet most helpful brace of keys.

The selection of the type has been made with great skill. The catchwords of the printed page stand out boldly, so that the eye can hardly fail to detect the object of search. And, lastly, there is a good sprinkling of interesting notes of a popular character throughout the work, and much prominence has been given to an account of the geographical range of the plants. With Gray's Manual, Watson's Botany of the Fortieth Parallel, and this work (soon, we hope, to be completed), the study of the plants with which one meets in his journey across the continent is now an easy task. It should be said that we are indebted to the generosity of a few far-sighted citizens of California for the publication of the first volume of this work, for which their own legislature failed to provide. Now, one good turn deserves another, and as Californians (the legislature of the State perhaps excepted) never do things by halves, we shall hopefully expect to see the other half of this, namely, volume second.

BOTANICAL PAPERS IN RECENT PERIODICALS. — *Comptes rendus*, 82, No. 20. Corenwinder, Chemical Researches respecting Vegetation. (The office of leaves. Fixation of carbon.) No. 21. L. Chailletet, On the Nature of the Mineral Substances assimilated by Fungi. No. 23. Pasteur, On the Origin of Organized Ferments. A. de Candolle, Influence of the Age of a Tree on the Mean Time of Leaf-Bud Expansion. Boiteau, On the Galls occurring on the Leaves of French Grape-Vines. No. 25. Maupas, On Contractile Vacuoles in the Vegetable Kingdom. No. 26. Hartsen, Researches respecting *Cupressus pyramidalis*. Bontin, Note on the Origin of the Nitrates in *Amarantus Blitum*. 83, No. 1. Trécul, The Carpellary Theory illustrated by Amaryllidaceæ. Nylander, The Lichens of Campbell Island. No. 2. Trécul's paper on the carpellary theory continued. Durin, On Cellulosic Fermentation of Cane-Sugar.

Flora, No. 18. Sachs, On Emulsion Figures and the Arrangement of Swarmspores in Water. W. Nylander, Lichens collected by Labalestier in Egypt. Dr. Suerssen, Notices of Vascular Cryptogams collected by Wawza. No. 19. Dr. B. Frank, The Biological Relations of the Thallus of some Crustaceous Lichens. No. 20. Nylander, Additions to European Lichenography. Dr. Prantl, Morphological Studies. De Krempelhuber, Brazilian Lichens. No. 21. J. E. Weiss, Relations of Growth and the Course of Fibrovascular Bundles of Piperaceæ. J. Reinke, Note respecting Recent Account of Apparatus for Demonstrating Growth.

Botanische Zeitung, Nos. 25, 26, 27, 28. Dr. Ernst Reuther, Contributions to the History of the Development of Flowers. No. 29. Solms-Laubach, The Development of the Flowers of *Brugmansia Zippelii* and *Aristolochia Clematitis* L. (continued in the four succeeding numbers of the journal). No. 33. A. W. Eichler, Reply to Reuther's paper mentioned above. No. 34. Professor Schenk, On the Fruit of Fossil Equisetaceæ. Professor Famintzin, On the Formation of Cotyledons.

ZOÖLOGY.

GEOGRAPHICAL VARIATION AMONG NORTH AMERICAN MAMMALS, ESPECIALLY IN RESPECT TO SIZE. — Having recently had an opportunity (through the kindness of Professor Baird) of studying with some care the magnificent series of skulls of the North American *Mammalia* belonging to the National Museum (amounting often to eighty or a hundred specimens of a single species), I have been strongly impressed with the different degrees of variability exhibited by the representatives of the species and genera of even the same family. The variation in size, for instance, with latitude, in the wolves and foxes is surprisingly great, amounting in some species (as will be shown later) to twenty-five per cent. of the average size of the species, while in other species of the *Feræ*